

AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below. A complete listing of the claims, including their status identifier, is set forth below.

1-131 (Canceled)

132. (Currently amended) A method of identifying a compound as having cardioprotective activity comprising:

(a) contacting a candidate compound with a G protein-coupled receptor (GPCR) comprising an amino acid sequence having at least 90% identity to SEQ ID NO:3, wherein said GPCR **couples with Gi and** is present on a cell or isolated membrane thereof;

(b) determining whether said compound stimulates the GPCR

(c) identifying a compound as having an activity that stimulates said GPCR;

(d) determining whether said compound of step (c) has cardioprotective activity

by:

(i) administering said compound of step (c) to a mammal; and

(ii) determining whether said compound of step (c) modulates cardiac function in the mammal; or

(iii) contacting said compound of step (c) with a cardiomyocyte cell *in vitro*; and

(iv) determining whether said compound modulates survival of said cardiomyocyte cell; and

(e) identifying a compound as having cardioprotective activity.

133. (Previously presented) The method of claim 132, wherein said cell is a mammalian cell, a yeast cell or a melanophore cell.

134. (Previously presented) The method of claim 132, wherein said G protein-coupled receptor is constitutively active.

135. (Previously presented) The method of claim 132, wherein said G protein-coupled receptor comprises the amino acid sequence of an endogenous receptor comprising the amino acid sequence of SEQ ID NO:2, SEQ ID NO:3 or SEQ ID NO:5.

136. (Previously presented) The method of claim 132, wherein step (b) of the method comprises detecting a second messenger.

137. (Previously presented) The method of claim 136, wherein the second messenger is cAMP or IP₃.

138. (Previously presented) The method of claim 132, wherein step (b) of the method comprises measuring pigment distribution in melanophore assay.

139. (Previously presented) The method of claim 132, wherein step (b) of the method comprises measuring GTPγS binding to membrane.

140. (Cancelled)

141. (Previously presented) The method of claim 132, wherein the method comprises measuring apoptosis of the cardiomyocyte cell.

142. (Cancelled)

143. (Previously presented) The method of claim 132, wherein the mammal is a rat or mouse model of heart disease.

144. (Previously presented) The method of claim 132, wherein step (d)(ii) of said method comprises evaluating a cardiovascular disorder, an ischemic heart disease, or a cardiovascular function in said mammal.

145. (Previously presented) The method of claim 132, wherein step (d)(ii) of said method comprises evaluating said mammal for congestive heart failure.

146. (Previously presented) The method of claim 132, wherein the compound of step (c) is an agonist of the GPCR.

147. (Previously presented) The method of claim 146, wherein the agonist is a partial agonist.

148. (Withdrawn) A method comprising:

- (a) administering a candidate compound to a non-human mammal having a genome comprising an inactivated mammalian RUP41 gene; and
- (b) determining if said compound provides cardioprotection.

149. (Withdrawn) The method of claim 148, wherein the non-human mammal is a rat, a mouse or a pig.

150. (Withdrawn) A cultured cardiomyocyte cell comprising a recombinant nucleic acid encoding a G protein-coupled receptor comprising an amino acid sequence having at least 90% identity to SEQ ID NO:3.

151. (Withdrawn) A non-human mammal having a genome that is modified to provide for selective expression of a G protein-coupled receptor comprising an amino acid sequence having at least 90% identity to SEQ ID NO:3 in cardiomyocytes.

152. (Withdrawn) A non-human mammal having a genome that is modified to provide for selective inactivation of a mammalian RUP41 gene in cardiomyocytes.

153. (Previously presented) The method of claim 132, wherein said GPCR comprises an amino acid sequence having at least 95% identity to SEQ ID NO:3.